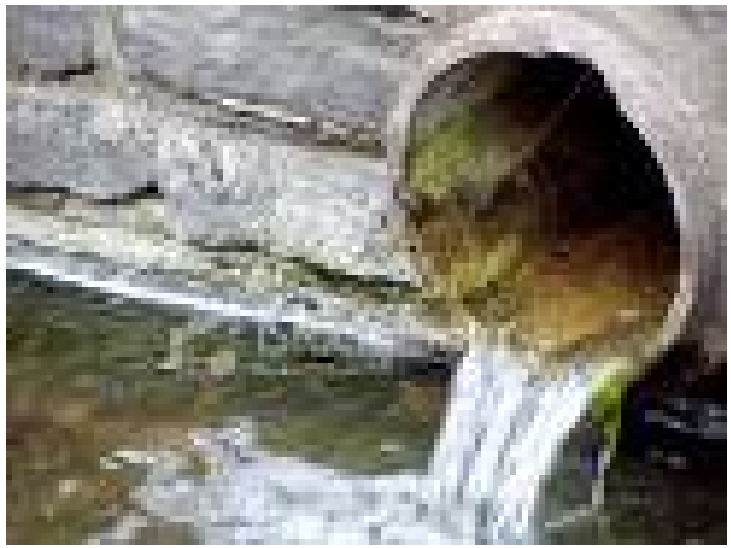
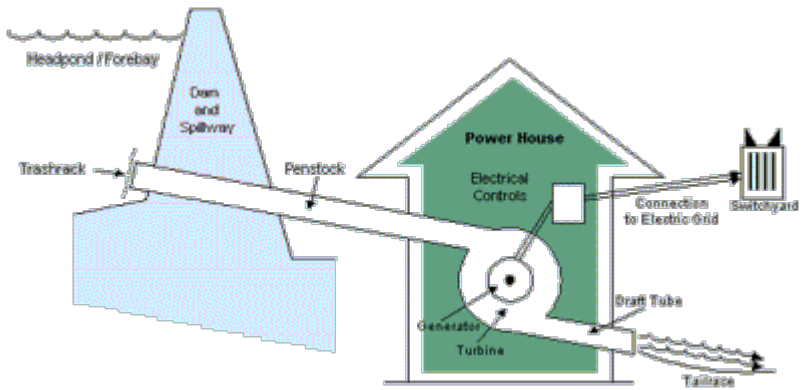
Active Daylighting
Class IX Warehouse

- Four ADS-2000 Active Daylighting Systems installed in dark aisle and over work space
- Workers claim “200% improvement” over artificial electric lighting
- Fixtures are more expensive, but less are required
- Payback in under two years with energy savings
- DOL saved $16K on lighting project by using less electric lights and switching to daylighting systems in design

Small Hydropower

- Utilize WTP, WWTP, distribution systems, discharges, etc.





No Wind in NC?

- The “old-fashioned” windmill at Raeford’s Raft Swamp Farms powers irrigation systems
- Wind from the installation freefall simulator is not captured

Geothermal

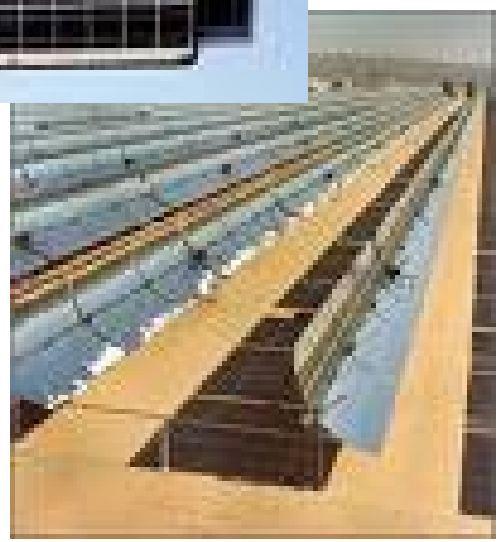
- McKellar's Lodge offers opportunities for utilizing lake cooling

- The Historic District has ample green space available for horizontal loops

Biomass

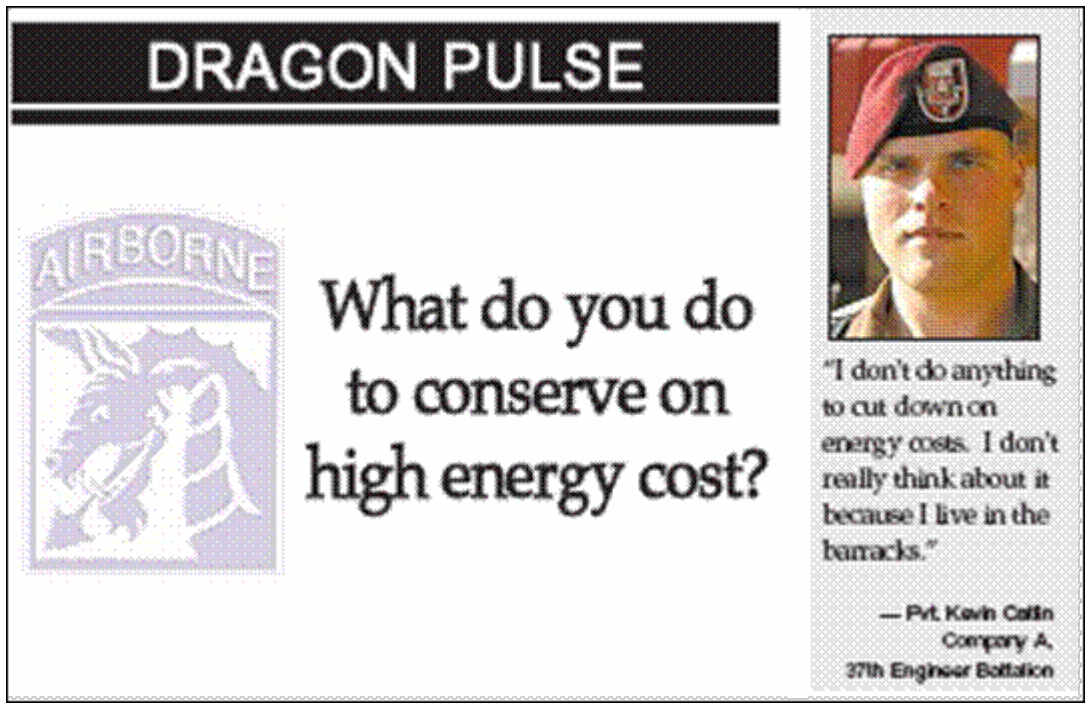
- The MOST solid waste in the Army
- Centrally located in the “Saudi Arabia” of biofuels
- Regional partnering opportunities (Sustainable Sandhills, Walmart, etc.)

Solar



- Experimented with daylighting
- Would like to explore solar hot water (gyms, barracks)
- Photovoltaics for power generation

Energy Awareness



Blower Door Test

Desiccant Evaporative Cooling

Hybrid Lighting

A: A prototype rooftop collector focuses solar rays into a set of half-inch-wide polymer fibers that are capped in heat-resistant quartz. **B:** The sunlight flows into a building through a network of exceptionally transparent fiber-optic cables. **C:** The fibers transmit 40 to 45 percent of the incoming sunlight into a ceiling fixture containing two acrylic rods that are etched to scatter the light evenly; the adjacent fluorescent bulbs fill in when sunshine alone is too weak to illuminate the room. Researchers at Oak Ridge National Laboratory hope that piped-in sunlight will put a serious dent in the amount of energy used to light commercial buildings, which accounts for about 10 percent of all electricity consumption in the United States. Photovoltaic cells placed behind the collector's secondary mirror could augment the savings by converting the sun's invisible infrared rays into electricity.